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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,558	09/22/2003	John H. Sohl III	36507-193188	5541
26694	7590	11/02/2006	EXAMINER	
VENABLE LLP			MOSS, KERI A	
P.O. BOX 34385			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20043-9998			1743	

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/666,558

Applicant(s)

SOHL ET AL.

Examiner

Keri A. Moss

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 and 9-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-33 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 13, 2006 has been entered.
2. Claims 1-7 and 9-33 are pending.

### ***Claim Objections***

3. Claim **33** is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 33 is a recitation of the manner in which the apparatus is intended to be employed but does not include sufficient structure to warrant presence of the functional language. The module does not contain structure enabling it to have feedback.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim **33** is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the structure necessary to enable a feedback.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims **1-7, 9-19, 21-22, 26-32** are rejected under 35 U.S.C. 102(b) as being anticipated by Monson (USP 5,887,491). Monson discloses a mobile enhanced scanning solutions module (Fig. 1) comprising a flow control subsystem (Fig. 3, part 30); a detector subsystem coupled to the flow control subsystem (column 5 lines 61-62); a moisture separator subsystem coupled to the flow control subsystem (Fig. 3 parts 40a, 40b, 60, 72; column 5 lines 44-58); a sampling subsystem coupled to the flow control subsystem (Fig. 3 parts 66,62); a global positioning system receiver (Fig. 3 part 32) integrated with a mobile data acquisition system configurable to allow geo-referencing

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of data acquired from at least one of the detector subsystem and/or the sampling subsystem (column 2 line 51-column 3 line 18); a software control subsystem (Fig. 34) coupled to the flow control subsystem; the flow control subsystem is adapted to be at least one of configured and/or reconfigured in a plurality of operator-selectable measurement subsystems prior to exhaust (column 1 line 27-43), this configuration is inherent as there are multiple subsystems within the module that must be controlled. The sampling subsystem comprises a gas chromatography injection port and a sample loop (Fig. 3 parts 62,66). The module further comprises an in situ gas stream (Fig. 3 part 60), a pneumatic supply (Fig. 3 part 68) and a moisture sensor detector (Fig. 3 part 102).

The mobile enhanced scanning solutions module comprises a detector subsystem configured to be selectively coupled to an in situ gas stream; a sampling subsystem selectively coupled to the in situ gas stream; a global positioning system receiver (Fig. 3 part 32) integrated with a mobile data acquisition system (Fig. 3 part 34) and configurable to allow geo-referencing of data acquired from the detector subsystem (column 6 lines 19-31); a software control subsystem coupled to the detector subsystem and the sampling subsystem (Fig. 3 part 30); wherein the enhanced scanning solutions module is adapted to be configured in a plurality of operator-selectable measurement subsystems prior to exhaust (column 1 line 27-43), this configuration is inherent as there are multiple subsystems within the module that must be controlled. The moisture separator subsystem (Fig. 3 parts 40a, 72; column 5 lines 54-58) is configured to be selectively coupled to the in situ gas stream (column 5 lines 44-58). This module further

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comprises a moisture sensor detector (Fig. 3 part 102) and a pneumatic supply (Fig. 3 part 68). A plurality of pre-programmable operator-selectable measurement subsystems are configured to interactively configure to perform any of a plurality of measurement functions (column 3 line 43-column 4 line 3; column 4 lines 50-55). There is an interface between the detector subsystem and the gas handling subsystem allowing insertion of a sample (column 4 lines 4-20). The software control subsystem comprises a data logger (column 3 lines 4-18). The module further comprises a membrane interface probe apparatus, or MIP, (Fig. 3 part 8) configured to be coupled to the in situ gas stream (Fig. 3 part 64) comprising a membrane interface probe (Fig. 3 part 10). Monson does not disclose the diameter of the MIP housing; however, in Figure 1, the probe appears to be greater than 2.125 inches if you compare the size of the probe to the size of the door of the truck. The MIP housing is adapted to couple with a push and hammer rod system and is adapted for low sidewall support drive rod string applications (column 3 lines 19-49). The MIP housing comprises more than 2 permeable membranes coupled to the housing (Fig. 3 parts 42a-c) and the MIP is adapted to provide circumferential sensing as the permeable membranes are arranged equidistant about the circumference of the MIP housing (Fig. 3 parts 42a-c). The MIP is operative to provide circumferential collection of volatile organic mass by the MIP housing (column 6 lines 3-18). The modular MIP apparatus comprises an external barrel (Fig. 3 part 50) having a cavity (Fig. 3 part 52). The probe comprises a plurality of modular components, capillary tubes, allowing field serviceable replacement (column 6 lines 3-49). These capillary tubes are a removable trap adapted to collect a volatile

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organic compound and identifies one or more compounds through chromatographic analysis (column 6 line 3-49). The MIP comprises a heated transfer line (Fig. 3 part 94) from the body of the MIP to a surface detector suite. The sample introduction system is adapted to introduce a calibration gas and to allow for simultaneous sampling of a volatile organic gas stream for chromatographic analysis (column 5 line 44-column 6 line 2). Geo-referencing may be done in three dimensions using a depth measurement device (column 7 lines 3-25) and a GPS receiver (column 3 lines 1-18).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims **20** and **25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Monson, as described supra, in view of Adriany (USP 6,405,135). Monson does not disclose a waterproof electrical connector or O-ring seal or a heated transfer line.

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Adriany discloses a membrane interface probe apparatus (Fig. 3) with an external barrel having a cavity 30 adapted to improve watertight integrity by including underwater cabling electrical couplings 38 and 52 and O-ring mechanical couplings 42. The advantage of Adriany is that it enables remote detection of pollutants in areas in which the probe may be immersed in liquids. Therefore, it would have been obvious to one of ordinary skill in the art to modify the structures of Thompson and Christy in order to enable probe sensing in liquid immersion.

11. Claims **24** and **33** is rejected under 35 U.S.C. 103(a) as being unpatentable over Monson, as described supra, in view of Robbatt (USP 6,487,920). Monson does not expressly disclose a field-insertable and removable cartridge heating element or a feedback. Robbatt teaches a cartridge heating element located within a soil probe (Figs. 3-5 part 232). Robbatt also teaches a feedback control system (column 7 lines 14-32). Robbatt teaches that the cartridge heating element enables heating of the surrounding soil at high temperatures, which separate the volatile contaminants from the soil for analysis (column 2 lines 39-51). The feedback system enables control of the cartridge voltage source to accurately control the temperature. It would have been obvious for one of ordinary skill in the art to modify the Monson apparatus with a removable cartridge heating element in order to gain the advantages of heating the soil at temperatures that enable separation of volatile contaminants for analysis. It would additionally have been obvious for one of ordinary skill in the art to modify Monson with a feedback control system in order to ensure the correct temperature.

While Robbatt does not disclose a separable cartridge heating element, it would have been obvious to make the cartridge heating element separable. In re Larson, Russler, and Meldahl, 144 USPQ 347, 350 (Fed. Cir. 1965) teaches that the use of an integrated construction versus separate and secured parts would be merely a matter of obvious engineering choice. In the instant case, Robbatt teaches an integrated construction while the Applicant claims separate and secured parts. As taught by In re Larson, using an integrated construction or separate parts is an obvious engineering choice. The advantage to making the parts separable is the ability to replace broken or worn out parts without having to replace the entire probe, thereby cutting down costs. Therefore, it would have been obvious for one of ordinary skill in the art to make the cartridge heating element of Robbatt separable in order to gain the advantages of decreasing costs.

12. Claim **23** is rejected under 35 U.S.C. 103(a) as being unpatentable over Monson, as described supra, in view of Griffeth (USP 491,595). Monson does not teach a removable conductivity nose assembly on the soil probe. Griffeth teaches a soil probe having a conductivity nose assembly (claim 1). Griffeth teaches that conductivity readings indicate moisture content in soil. Therefore, it would have been obvious for one of ordinary skill in the art to modify the Monson probe with a conductivity nose assembly in order to better enable more accurate moisture indications.

While Griffeth does not disclose a separable conductivity nose assembly, it would have been obvious to make the conductivity nose assembly separable. In re Larson,

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Russler, and Meldahl, 144 USPQ 347, 350 (Fed. Cir. 1965) teaches that the use of an integrated construction versus separate and secured parts would be merely a matter of obvious engineering choice. In this case, Griffeth teaches an integrated construction while the Applicant claims separate and secured parts. As taught by In re Larson, using an integrated construction or separate parts is an obvious engineering choice. The advantage to making the parts separable is the ability to replace broken or worn out parts without having to replace the entire probe, thereby cutting down costs. Therefore, it would have been obvious for one of ordinary skill in the art to make the conductivity nose assembly of Griffeth separable in order to gain the advantages of decreasing costs.

### ***Response to Arguments***

13. Applicant's arguments, see Amendments and Remarks, filed August 17, 2006, with respect to the rejection(s) of claim(s) 1-33 under Thompson and Christy have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Monson, Adriany, Robbat and Griffeth.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Keri A. Moss whose telephone number is 571-272-8267. The examiner can normally be reached on 9-5:30.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on (571)272-1700. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keri A. Moss  
Examiner  
Art Unit 1743

KAM 10/24/06

  
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